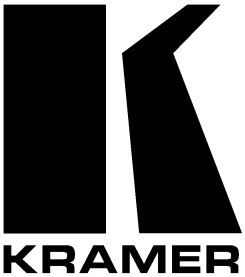
Kramer Electronics, Ltd.



USER MANUAL

Model:

WP-211DS

Wall Plate

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 350-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer **WP-211DS** wall plate[2], which is ideal for any system requiring automatic computer and presentation routing for computer graphics signals (up to UXGA and higher). The package includes the **WP-211DS** wall plate and this user manual[3].

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[4]

3 Overview

This section describes:

- The power connect feature, see section 3.1
- Using shielded twisted pair (STP)/unshielded twisted pair (UTP), see section 3.2
- A summary of the **WP-211DS**, see section 3.3
- Recommendations for achieving the best performance, see section 3.4

3.1 About the Power Connect Feature

The Power Connect feature lets you power a transmitter / receiver system by connecting just one power adapter to either the transmitter or the receiver.

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1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Each wall plate is supplied with the required M3x4 screws

3 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

4 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

The other unit is fed over the same CAT5 cable. The Power Connect feature applies as long as the CAT5 cable is heavy gauge cable (that is, it can carry power). The distance does not exceed 50 meters on standard cable.

For a distance of 100 meters, separate power supplies must be connected to the transmitter and to the receiver simultaneously, unless using heavy gauge CAT5 cable.

3.2 Shielded Twisted Pair (STP) / Unshielded Twisted Pair (UTP)

The decision whether to use shielded twisted pair (STP) cable or unshielded twisted pair (UTP) cable depends on the nature of the application.

It is recommended that in applications with high interference, shielded twisted pair (STP) cable will give better results. However, the shield itself does create a capacitance that degrades the frequency response of the machines. For shorter distances, of 50m or so, shielded twisted pair (STP) cable is preferred because it provides protection from interference (degradation is non apparent).

For a long range application, unshielded twisted pair (UTP) cable is preferred. However, the unshielded twisted pair (UTP) cable should be installed far away from electric cables, motors etc., which are prone to create electrical interference.

3.3 About the WP-211DS

Your Kramer **WP-211DS** Wall Plate—available in 4 versions: one for Belgium, one for Germany, one for England (and the rest of Europe), and one for the USA— is a high performance 2x1 automatic switcher for computer graphics and stereo audio signals. The **WP-211DS** detects the presence of the active XGA-type input signal from either IN 1 (the default) or IN 2, and automatically routes it to the acceptor connected to the rear panel XGA OUT and the AUDIO OUT connectors. In addition, the **WP-211DS**:

- With its video bandwidth exceeding 260MHz, ensures transparent operation at the highest resolutions
- Automatically switches the stereo audio signal with the video signal (audio-follow-video) when switching the active input to the output
- Includes a DEFAULT SELECT switch for selecting the computer graphics master (default) source signal
- Includes a looping XGA input
- Comes with contact closure remote control for forced operation
- Includes a CAT5 output (for video) via an 8 PIN terminal block connector
- Is powered by a standard 12 Volt DC feed

3.4 Recommendations for Achieving the Best Performance

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances that may adversely influence signal quality, and positioning your **WP-211DS** away from moisture, excessive sunlight and dust

4 Your WP-211DS

Figure 1 and Table 1 define the front panel of the **WP-211DS**:

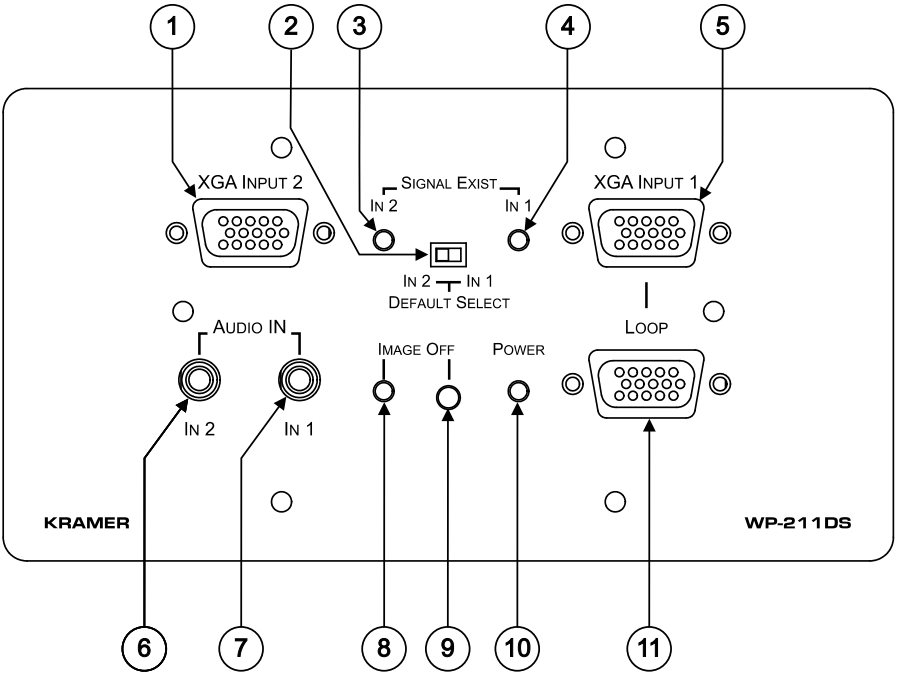

Figure 1: WP-211DS Front Panel

Table 1: WP-211DS Front Panel Features

#	Feature		Function
1	*XGA INPUT 2* HD15F Connector		Connects to the computer graphics source 2
2	*DEFAULT SELECT* Switch		Slide to left for input 2, slide to right for input 1
3	SIGNAL EXIST	*IN 2* Green LED	Lights when the XGA INPUT 2 source is active
4	SIGNAL EXIST	*IN 1* Green LED	Lights when the XGA INPUT 1 source is active
5	*XGA INPUT 1* HD15F Connector		Connects to the computer graphics source 1
6	*AUDIO IN 2* mini plug Connector		Connects to audio source 2
7	*AUDIO IN 1* mini plug Connector		Connects to audio source 1
8	IMAGE OFF	Red LED	Lights when the image is turned off, displaying a blank screen
9	IMAGE OFF	Button	Blanks the screen[1]
10	*POWER* LED		Lights when receiving power
11	*LOOP* HD15F Connector		For XGA looping to increase output availability (for example, to connect to an additional monitor)

Figure 2 and Table 2 define the rear panel of the **WP-211DS**:

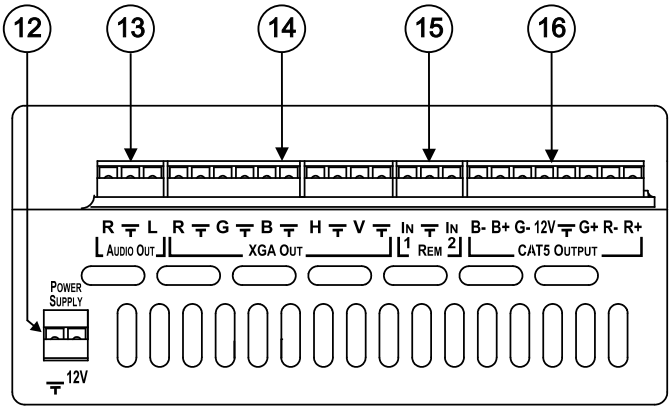

Figure 2: WP-211DS Rear Panel

Table 2: WP-211DS Rear Panel Features

#	Feature		Function
12	POWER SUPPLY Terminal Block Connector	GND PIN	Connect (-) to the Ground
		12V PIN	Connect (+) to the connector for powering the unit
13	AUDIO OUT Terminal Block Connector		Connects to the audio acceptor
14	XGA OUT Terminal Block Connector		Connects to the computer graphics (RGBHV) acceptor
15	REM (Remote) *IN 1* and *IN 2* Terminal Block Connectors		Connect to a dry contact switch (see section 5.5)
16	CAT5 OUTPUT Terminal Block Connector		Connects to the CAT5 line input on the *XGA Line Receiver* (see section 5.2)

1 R, G and B signals are blocked, but the H and V (and also audio) are passed through

5 Using the WP-211DS

For details of how to:

- Install your **WP-211DS**, see section 5.1
- Wire the CAT5 LINE IN / LINE OUT RJ-45 connectors, see section 5.2
- Connect your **WP-211DS**, see section 5.3
- Select the default master source signal, see section 5.4
- Connect the REMOTE connector, see section 5.5

You can use your **WP-211DS**, for example, in a conference room, as the example in Figure 3 illustrates:

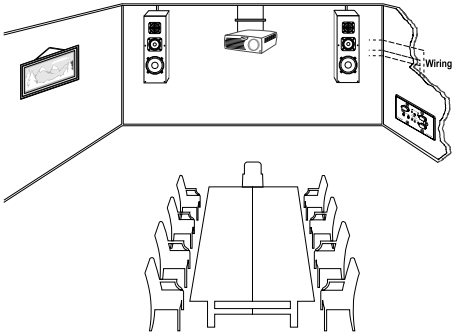

Figure 3: Example of a Conference Room WP-211DS Installation

5.1 Installing the WP-211DS

To install your **WP-211DS**, connect each of the following terminal block output connectors to the pre-installed wiring in the wall box opening[1], the:

1. XGA OUT RGBHV 10 PIN. It connects to the XGA acceptor (for example, a projector).
2. AUDIO OUT 3 PIN. It connects to the audio acceptor (for example, a pair of speakers).
3. CAT5 OUTPUT 8 PIN. It connects to the CAT5 line input.
4. REM 3 PIN. It connects to the remote connector (see section 5.5).

In addition:

- Connect the 12V DC power supply to the *POWER SUPPLY* pins[2], taking care that **polarity is correct**
- Insert the **WP-211DS** directly into the wall box opening, and then mount the front panel securely using the screws

1 As required. Some features may not be required in an installation

2 Connect the wire labeled "+" to the +12V pin, and the wire labeled "–" to the GND pin

5.2 Wiring the CAT5 LINE IN / LINE OUT RJ-45 Connectors

Table 3 and Figure 4 define the UTP CAT5 PINOUT, using pin to pin wiring to connect the **WP-211DS** output to the **TP-120** input:

Figure 4: CAT5 PINOUT

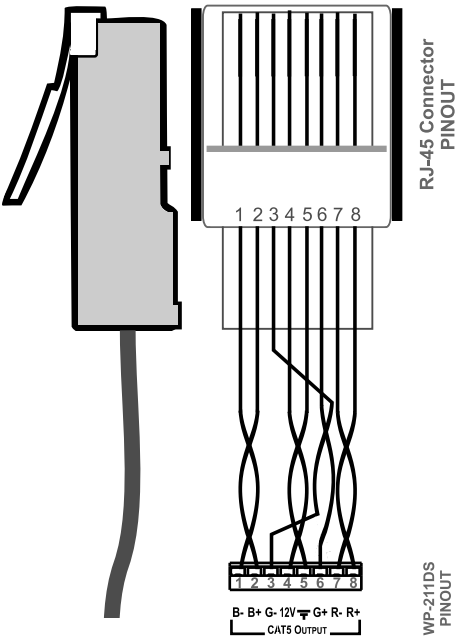

Table 3: CAT5 PINOUT

TP-120 CAT5 INPUT	
PIN	**Wire Color**
1	BLUE(--)
2	BLUE(+)
3	GREEN(--)
4	+12VDC
5	GND
6	GREEN(+)
7	RED(--)
8	RED(+)

WP-211DS CAT5 OUTPUT	
PIN	**Wire Color**
1	BLUE(--)
2	BLUE(+)
3	GREEN(--)
4	+12VDC
5	GND
6	GREEN(+)
7	RED(--)
8	RED(+)

5.3 Connecting the WP-211DS

To connect your **WP-211DS**, do the following:

1. Connect a computer graphics (master) source to the XGA INPUT 1 HD15F connector and to the AUDIO IN 1 3.5mm mini jack, for example, using a Kramer C-GMA/GMA cable[1].
2. Set the DEFAULT SELECT switch to IN 1 (the factory preset default) or IN 2, as section 5.4 describes.
3. Connect a second computer graphics source to the XGA INPUT 2 HD15F connector and to the AUDIO IN 2 3.5mm mini jack, for example, using a Kramer C-GMA/GMA cable[1].
4. Connect an additional display to the LOOP HD15F connector (optional).

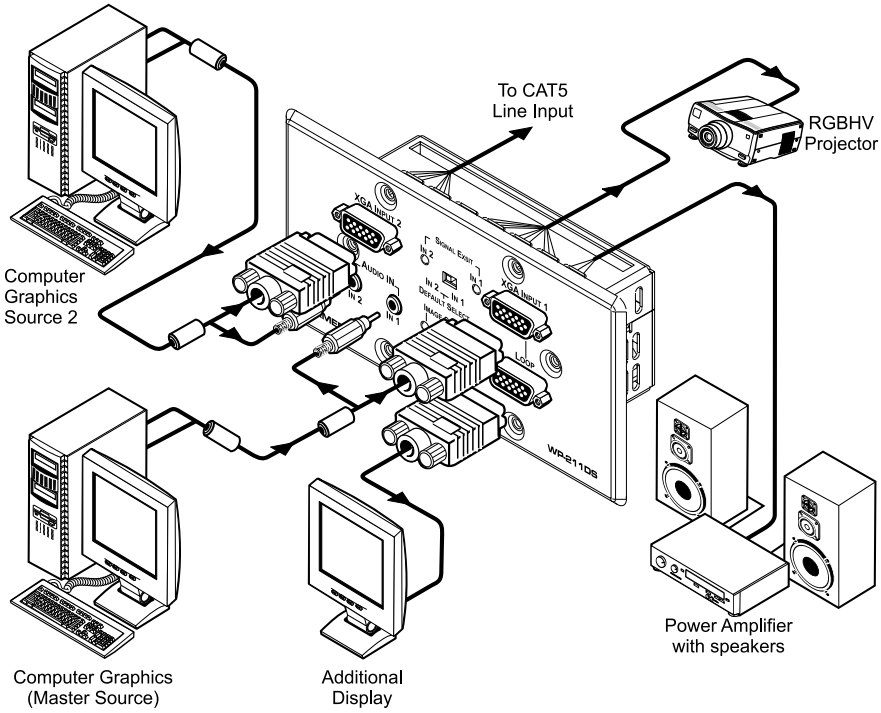

Figure 5: Example of a WP-211DS Installation

1 XGA HD15M +Audio jack to XGA HD15M +Audio jack (not supplied). The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com. Alternatively, you can connect an XGA source to the XGA INPUT HD15F connector, and a separate audio source to the AUDIO IN

5.4 Operating using the Default Master Source Signal Selection

The DEFAULT SELECT switch is factory preset to IN 1 and the **WP-211DS** will detect the presence of the master source signal at the XGA INPUT 1 connector. If you connect active sources to both the XGA INPUT 1 and the XGA INPUT 2 connectors, the source at the XGA INPUT 1 connector takes priority over the source at the XGA INPUT 2 connector and it is routed to the XGA OUT and the AUDIO OUT connectors (audio follows the video).

You can change the default so that the **WP-211DS** automatically detects an active source signal from XGA INPUT 2, by setting the DEFAULT SELECT switch to IN 2. When active, the source at the XGA IN 2 connector takes priority over the source at the XGA INPUT 1 connector and it is routed to the XGA OUT and the AUDIO OUT connectors (audio follows the video).

If the **WP-211DS** detects:

- No signal[1] at the XGA INPUT 1 input (when INPUT 1 is selected as the default), the **WP-211DS** routes the signal from the source at XGA INPUT 2 and AUDIO IN 2 to the XGA OUT and the AUDIO OUT connectors. Similarly, if the **WP-211DS** detects no signal at the XGA INPUT 2 input (when IN 2 is selected as the default), the **WP-211DS** routes the signal from the source at XGA INPUT 1 and AUDIO IN 1 to the XGA OUT and the AUDIO OUT connectors
- A signal from the XGA source at XGA INPUT 1 input (when IN 1 is selected as the default), while routing the signal from the XGA source at XGA INPUT 2, the **WP-211DS** will reroute the signal from the XGA source at XGA INPUT 1 and AUDIO IN 1 to the XGA OUT and the AUDIO OUT connectors. Similarly, if the **WP-211DS** detects a signal from the XGA source at XGA INPUT 2 input (when IN 2 is selected as the default), while routing the signal from the XGA source at XGA INPUT 1, the **WP-211DS** will reroute the signal from the XGA source at XGA INPUT 2 and AUDIO IN 2 to the XGA OUT and the AUDIO OUT connectors
- No signal at all (that is, when there is no active input from a source at XGA INPUT 1 or at XGA INPUT 2), the **WP-211DS** will still route XGA INPUT 2 and AUDIO IN 2 to the XGA OUT and AUDIO OUT connectors, and continue to examine XGA INPUT 1 input (when IN 1 is selected as the default), switching back to it when it detects a valid signal. Similarly, if the **WP-211DS** detects no signal at all (when IN 2 is selected as the default), it will still route XGA INPUT 1 and AUDIO IN 1 to the XGA OUT and AUDIO OUT connectors, and continue to examine XGA INPUT 2 input, switching back to it when it detects a valid signal

1 Perhaps no source is connected, or that source is connected but its power is OFF

5.5 Connecting the REMOTE Connector

You can force the routing of one of the 2 inputs to the XGA output by remote control. To do so, connect the appropriate REMOTE input terminal block connector pins to a dry contact switch[1]. For example, as Figure 6 illustrates, to route *REMOTE IN 1* to the XGA output, connect PIN 1 to the Ground. To route *REMOTE IN 2* to the XGA output, connect PIN 2 to the Ground pin. Do not connect both the *REMOTE IN 1* and the *REMOTE IN 2* to the Ground pin simultaneously.

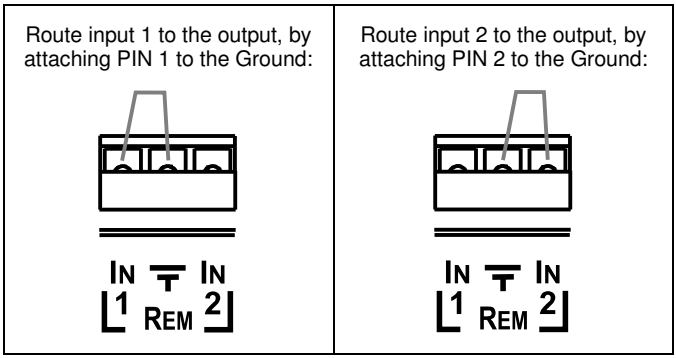
Route input 1 to the output, by attaching PIN 1 to the Ground:
IN IN
1 REM 2
Route input 2 to the output, by attaching PIN 2 to the Ground:
IN IN
1 REM 2

Figure 6: Remote Terminal Block Connector

When both XGA INPUT 1 and XGA INPUT 2 are connected, the signal from XGA INPUT 1 routes to the output (factory default). However, you can force the routing of XGA INPUT 2 to the output by attaching PIN 2 to the Ground. Even if no input is present on XGA INPUT 1, you can force the routing of the output from XGA INPUT 1 (displaying a blank screen) by attaching PIN 2 to the Ground.

1 Note that the connection should be permanent, since the WP-211DS will revert to an automatic switcher when the connection is removed

6 Technical Specifications

Table 4 includes the technical specifications:

Table 4: Technical Specifications[1] *of the WP-211DS*

INPUTS:	2 XGA on HD15F connectors 2 unbalanced stereo audio on 3.5 mm mini audio connectors	
OUTPUTS:	1 XGA (RGBHV) on a 10 PIN terminal block connector 1 XGA on an HD15F connector (input #1 loop) 1 unbalanced stereo audio on a 3 PIN terminal block connector 1 CAT5 (for video) on an 8 PIN terminal block connector	
MAX. OUTPUT LEVEL:	VIDEO: 1Vpp (XGA)	AUDIO: 4dBm
BANDWIDTH (-3dB):	VIDEO: 260MHz (XGA)	AUDIO: 20kHz
DIFF. GAIN:	0.05% (XGA)	
DIFF. PHASE:	0.1% (XGA)	
K-FACTOR:	0.3% (XGA)	
S/N RATIO:	VIDEO: 74dB	AUDIO: 80dB
CROSSTALK (all hostile):	VIDEO: –59dB @ 100MHz	
CONTROLS:	Contact closure remote control, input default selection switch, Image off button	
COUPLING:	VIDEO: DC	AUDIO: DC
AUDIO THD + NOISE:	0.017%	
AUDIO 2nd HARMONIC:	0.005%	
POWER SOURCE:	12 VDC, 330mA	
DIMENSIONS:	Belgium: 15.1cm x 8.0cm x 3.84cm (5.95" x 3.15" x 1.51"), W, H, D Germany: 15.1cm x 8.0cm x 3.84cm (5.95" x 3.15" x 1.51"), W, H, D England and Europe: 14.6cm x 8.6cm x 3.84cm (5.75" x 3.39" x 1.51"), W, H, D USA: 16.2cm x 11.4cm x 3.9cm (6.4" x 4.5" x 1.55"), W, H, D	
WEIGHT:	0.3 kg (0.67 lbs.) approx	

1 Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

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P/N: 2900-000078 REV 3